



Get the Scoop from KER!

Sign up for the FREE Kentucky Equine Research weekly nutrition and health/industry e-newsletters and win KER products.

Sign Up Now



The Many Faces of Colic

by: Karen Briggs
July 01 2011, Article # 18481

Recommend

You recommend **The Many Faces of Colic.** · Add Comment · Admin Page · Insights · Error

Print

Email

Add to Favorites

ShareThis

+1

0

Considering the length and volume of the equine digestive system, it's little wonder that colic can have so many causes and clinical signs.

Pop quiz. Is colic:

- a) A descriptive term for any of an array of clinical signs indicating equine digestive distress;
- b) One of the most common killers of healthy adult horses;
- c) Usually resolved without surgical intervention; or
- d) All of the above?

The answer is, of course, "d." Colic in horses isn't so much a disease as it is a collection of clinical signs, the common de-nominator being gut pain. It can arise from any of dozens of causes, which is why it can be so challenging to diagnose and treat.

The good news, according to Anthony Blikslager, DVM, PhD, Dipl. ACVS, professor of equine surgery at North Carolina State University, is that the vast majority of colic cases--roughly 90%--can be considered medical rather than surgical. They either resolve on their own or with veterinary medical assistance.

"I sometimes look at the horse as a work in progress," Blikslager says. "At this stage in its evolution, the equine digestive tract has some inherent weaknesses which make the horse quite vulnerable to some kinds of colic."

For instance, a horse's intestines fluctuate between wide and narrow, wind around hairpin turns, and loop and pile loosely in the abdominal cavity, with little or no anchoring to keep them from twisting, flipping, or shifting. All of these design imperfections have the potential to contribute to colic, but more often than not colic's cause is unknown, says Blikslager. However, most cases fall into one (or more) of three categories: tympanic (gas), spasmodic, and impaction colic.

Bubble, Bubble, Toil and Trouble

Mild discomfort, a distended and tender abdomen, and overactive gut sounds (detectable with a stethoscope or by pressing your ear to your horse's barrel and flanks--while carefully watching to avoid being kicked, of course) are the hallmarks of gas buildup in the intestinal tract. Changes in diet--such as when a horse is introduced to lush spring grass--can sometimes trigger the overproduction of gas, which gets trapped if the large intestine is temporarily obstructed by partially digested food.

Gas, or tympanic, colic is often (but not always) associated with increased peristaltic contractions (wavelike movements that keep ingesta going further down the gastrointestinal tract), which can cause painful spasms. Spasmodic colic can result from increased spasms, or contractions, in the intestinal wall.

The good news is that spasmodic colic is usually transient, lasting from a few minutes to a couple hours. Clinical signs can

Stay up-to-date with our free newsletters!

Related Topics:

- Colic
- Veterinary Practice
- Digestion

Latest News:

RSS

- Industry Standards for Frangible Cross-Country Jumps Defined
- Missouri Court Rules in Non-Veterinarian Dentist Case
- Riders4Helmets to Host 3rd Helmet Safety Symposium
- Wisconsin Horse Nutrition Workshop Scheduled for Feb. 11
- Read more news...

Come Explore a World-Famous Equine Veterinary Hospital



ORDER NOW

You guard him against injury and disease.



Now guard him against stomach ulcers.

UlcerGard®
(omeprazole)

©ULCERGARD is a registered trademark of the AstraZeneca Group of Companies. ©2008 Merial Limited, Duluth, GA. All rights reserved. LAGEUGD867

EXCLUSIVELY EQUINE

More Than Just Books!

www.ExclusivelyEquine.com

be intermittent, but they generally resolve with veterinary administration of spasmolytic medication and analgesics (pain killers) such as flunixin meglumine (Banamine). Tympanic colic, too, usually self-corrects thanks to the gut's imperative to keep everything moving along.

All Stopped Up

Television commercials for various laxative aids attest to the fact that most humans are familiar with the bloated, stopped-up feeling of constipation. The equine version is impaction colic--when foodstuffs in the large or small intestine just aren't moving along as they should.

Impaction colic is particularly common in the fall and winter months, when many horses don't consume as much water as they should. That, combined with a dietary change from warm-weather pasture grasses (which are relatively high in moisture) to cured hay, makes it easy for dry wads of fibrous material to accumulate in the intestinal tract and refuse to budge.

Parasites, too, can contribute to impaction colic. A heavy worm load in the intestinal tract can form partial or complete blockages, especially in places where the passages are already narrow.

David Freeman, MVB, Dipl. ACVS, PhD, professor and interim chair of Large Animal Surgery at the University of Florida, notes, "In horses under a year old we often see impaction colics due to ascarids. This parasite has become resistant to ivermectin and is making a comeback, so we expect to see more of it in foals and weanlings in years to come."

Impaction colics also can be caused by foreign bodies in the GI tract. Sand, consumed along with feed in areas where the soil is naturally sandy, can accumulate in the gut (usually at the pelvic flexure--a spot where there is a 180-degree turn in the colon and the passage narrows--or the right dorsal colon, which is the uppermost part of the colon on the right side of the horse) and cause a partial blockage. Enteroliths, stony mineral deposits that form in the gut and wreak havoc when they grow to a certain size, also can develop. In some cases these equine versions of pearls in an oyster evolve around a swallowed foreign object such as a sliver of wood or a piece of baling twine. See page 54 for an illustration of enterolith formation.

Clinical signs of impaction colic are usually (though not always) mild. The horse might lose his appetite and appear uncomfortable, swinging his head around to look at his belly or flanks. He might have a mildly elevated heart rate (normal heart rate is around 30 to 40 beats per minute), and might pace, circle, or want to lie down. Upon performing rectal examination, veterinarians can feel some impactions easily, Blikslager says, though only the final third of the GI tract is easily palpated. Ultrasound examination, which is noninvasive and performed on the abdomen/flank area, might help reveal impactions located in other sections of the tract.

The majority of impaction colics respond to medical treatment, which usually includes analgesia and introducing a softening agent by nasogastric tube. "Increasing hydration is important when you're treating an impaction," Blikslager notes. "Oral or IV (intravenous) fluids can be given, and mineral oil is still commonly used (as a softening agent), though many veterinarians now prefer a detergent product called DSS (dioctyl sodium sulfosuccinate), which can help break up an impaction while stimulating gut motility."

Some practitioners also rely on good old-fashioned Epsom salts (magnesium sulfate). "Epsom salts suck water into the colon and may have a beneficial effect on motility," says Blikslager. "They also have a strong laxative effect. You would give about one gram per kilogram of body weight, in solution, via a nasogastric tube."

Regarding mineral oil, Blikslager comments, "The nice thing about it is that it should make its way through the digestive tract in about 18 hours. That can give you an indication that things are moving, at least, although the mineral oil can sometimes work its way around the impaction without shifting it."

Most of these substances do little good if the issue is sand in the gut. Mineral oil, DSS, Epsom salts, and other traditional remedies such as feeding bran or tubing with liquid paraffin, are all fairly useless for sand colic, according to Blikslager. The go-to product is psyllium husk, a soluble plant fiber that forms a gel when it is mixed with fluids. The gel seems to bind up the sand and help move it out of the horse's intestines, though it might take several treatments to clear it entirely.

When is it Surgical?

If a horse does not respond to medical treatment, is in severe discomfort, in shock (his mucous membranes are pale or brick-red to purple and his pulse and respiration are rapid), or if he is thrashing or rolling in pain, it is time to get him to an equine hospital where a qualified surgeon can assess him.

"Symptoms which recur despite being treated medically and (that are accompanied by) a significant pain score--these are big tipoffs on those 5-10% of colics that are severe and may require surgery," says Blikslager. "Of that 5-10%, the most common cause is a simple obstruction or impaction. The second most common cause is a strangulating obstruction."

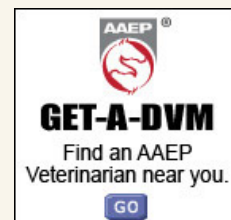
In a simple obstruction, something--partially digested food, a foreign body such as an enterolith or a mass of parasites, or the formation of a stricture (an abnormal narrowing of the passage)--is blocking a section of the GI tract, leading to a painful buildup of fluid and sometimes gases, a distension of the intestines, and eventual occlusion (blockage) of the arteries and veins supplying the GI tract with blood.

A more serious strangulating obstruction is characterized by an immediate occlusion of the blood supply to a portion of the



[Check Out More Horse Podcasts!](#)

Go to Article #:



Adoptable Horse

North Carolina
Featured Adoptable Pet:



Rocky

K-9 Capers

Concord, North Carolina

[compliments of Petfinder.com](#)

Sponsored By
Exclusively Equine

Sponsor Links

[BootBarn.com](#)
[HorseSaddleShop.com](#)
[Nanric Inc. Equine Podiatry](#)
[StateLineTack.com](#)
[The Saddle Zone](#)
[PetStore.com](#)
[Vivid Seats Ltd](#)
[PetSmart.com](#)
[Total Pet Supply](#)
[JeffersEquine.com](#)
[More links...](#)



GI tract, usually due to some section of the intestines being where it shouldn't. When the blood supply is compromised, tissue death might follow--and the only cure for necrotic tissue is to remove it surgically.

"Strangulating obstructions can be terribly painful," Blikslager says. "The horse is generally bloated and wants to roll. He will look 'shocky,' with an elevated heart rate and compromised capillary refill in his gums and other mucous membranes. All of this is brought about by a section of the bowel dying, which releases toxins into the horse's system.

"Simple obstructions are somewhat less dramatic. The horse is usually not in shock, the color of his gums will be okay, and his heart rate will be elevated, but not extreme--perhaps 50 beats per minute."

These initial observations made during a physical exam provide an equine surgeon with important clues: not only whether a horse is a surgical candidate but also what he or she might find after opening the horse's belly. With the help of ultrasound and other techniques such as manual palpation and tapping the peritoneal, or abdominal, fluid, the surgeon can often make an accurate assessment of the situation. For example, the presence of reddish-orange serosanguinous fluid, which contains both blood and serous (protein-containing) fluid, often can indicate presence of strangulating obstructions.

"Ultrasound has really improved our diagnostic picture of colic, but there are limits to how far it can penetrate," Freeman says. "You can also assess the thickness of the bowel wall, sometimes see the location of an impaction, and get information on the amount and location of peritoneal fluid.

"In most surgical cases when we open the horse up, we have a pretty good idea of what we're going to find," he adds. "For example, in a postpartum mare who has obvious abdominal distension and severe pain, we strongly suspect a large colon volvulus, also known as a torsion (twist).

"If an older horse comes in with a high heart rate and a variable degree of pain, and we can palpate loops of distended small intestine or see the distension on ultrasound, then the probability is that we're dealing with a strangulating lipoma." Lipomas are abdominal fatty tumors that tend to form in older horses. They grow on stalks, which can sometimes wrap themselves around a section of intestine and cut off the blood supply.

These are just a few of many possible surgical colic scenarios. Others might include:

Left dorsal colon displacement Also known as a nephrosplenic entrapment, the dorsal colon migrates between the spleen and the abdominal wall and becomes trapped over the nephrosplenic ligament, which is a short ligament attaching the spleen to the left kidney.

Right dorsal colon displacement The right dorsal colon becomes trapped between the cecum and the right abdominal wall.

Intussusception The intestine "telescopes" inside a portion of itself, often because a section has become paralyzed and the contractions of the adjacent section push the tissue inside the nonmotile area. Intussusception often occurs at the ileocecal junction (where the small and large intestine join). Some veterinarians have implicated damage from tapeworms as a cause, though not conclusively.

Epiploic foramen entrapment In this case a section of small intestine threads itself through the epiploic foramen (a narrow opening connecting the two sacs of the abdominal cavity) and becomes trapped. This type of colic is very dangerous because the blood supply is immediately occluded. For reasons that aren't fully understood, it's prevalent in horses that crib.

Mesenteric rent entrapment On occasion, a small tear or rent forms in the mesentery, a thin sheet of connective tissue attached to the intestines, through which a segment of bowel can thread itself. Fluid buildup and subsequent enlargement of the bowel can trap that segment, necessitating surgery.

"The hard part of presurgical assessment is that horses are very individual," says Freeman. "They don't always read the book on how they are supposed to react to a specific condition. Some cases are clear-cut, no-question surgical cases, while with others we use a wide range of diagnostics to make that assessment."

Learn how to take your horse's vital signs, what first aid supplies to keep on hand, when you can help your horse yourself, and when to call the vet in the DVD [First Aid for Horses](#).

Post-surgical prognosis can also vary widely. According to Freeman, a horse that is very sick going into surgery with clinical signs of shock, endotoxins (toxins from Gram-negative bacterial infections) circulating in his blood, and dehydration might not handle anesthesia well due to low blood pressure. These horses are more likely to crash during surgery and often have poorer prognoses than healthier horses have.

Astonishingly, horses can lose up to 80% of their intestinal tracts and still recover and function normally, according to Freeman. "They seem to adapt and do fine and don't even require a special diet," he says. But the stress of the surgical resection and anastomosis (joining the resected bowel back together), the risk of adhesions that can limit bowel motility as the gut heals, and the ever-present risks of general anesthesia and postoperative infection all factor in.

Little wonder, then, that despite advances in anesthesia, surgical technique, and recovery, most veterinarians would prefer that colic cases resolve on their own or with medical help rather than be forced to wield a scalpel. Luckily, most of the time that's true.

Therapy Reverses Bowel Obstruction without Surgery.
www.clearpassage.com

[London Equine Hospital](#)
* WE Have Moved * See what's new Referral Hospital for Horses
LondonEquineHospital.ca

[Automatic Horse Feeder](#)
Feed flake hay up to 6 times a day! Feed Grain & Supplements too.
www.StableGrazer.com



Confirm

You recommend **The Many Faces of Colic**. · Add
Comment · Admin Page · Insights · **Error**



Add to Favorites



ShareThis



0

Most Popular

Viewed

E-mailed

Saved

1. [Recognize Insulin Resistance Before Laminitis Onset](#)
2. [Preparing Horse Farms for Winter Weather Disasters](#)
3. [Supplementation Strategies for Performance Horses](#)
4. [Understanding Potomac Horse Fever](#)
5. [Study Confirms Horseback Riding has Human Health Benefits](#)
6. [Wisconsin Horse Nutrition Workshop Scheduled for Feb. 11](#)
7. [Back Pain in Horses Table Topic \(AAEP 2011\)](#)
8. [Detecting Discomfort](#)
9. [Former Olympian Facing Animal Cruelty Charges](#)
10. [Thoroughbred Stallion Einstein To Help Kentucky Students](#)

Related Free Reports

- [Prebiotics and Probiotics Fact Sheet](#)
- [AAEP 2010 Convention Complete Coverage \(AAEP Convention 2010\)](#)
- [Respiratory Issues in Horses \(AAEP Convention 2010\)](#)
- [Hoof Care \(AAEP Convention 2010\)](#)
- [Neurology \(AAEP Convention 2010\)](#)
- [See all reports...](#)

More Related Content

- [Missouri Court Rules in Non-Veterinarian Dentist Case](#)
- [Understanding Potomac Horse Fever](#)
- [New Assistant Director of UC Davis Center for Equine Health](#)
- [Endocrinopathic Laminitis: An Incomplete Picture](#)
- [Respiratory Diseases Table Topic \(AAEP 2011\)](#)
- [Dysphagia in Horses Difficult to Diagnose](#)
- [2012 International Hoof Care Summit Set for Jan. 31-Feb. 3](#)
- [AAEP 2011: Milne Lecture on Epidemiology](#)
- [Intravenous Catheter Care for Horses](#)
- [Dentistry in Horses](#)



TheHorse.com on Facebook



Confirm

You like this. · Admin
Page · Insights · **Error**
You like this. · Admin
Page · Insights · **Error**

17,236 people like **TheHorse.com**. 17,235 people like **TheHorse.com**.



Nina

Mary-Ellen

Anna



Facebook social plugin

Ask a Horse Vet Online

5 Horse Vets Are Online. A Question is Answered Every 9 Sec!

[HorseJustAnswer.com](#)

Yes, send me a free trial issue

of *The Horse: Your Guide To Equine Health Care* and enter my subscription. I'll get 12 issues for only \$24! I'll also get full access to TheHorse.com!

[For Canadian orders click here](#)

[For International orders click here](#)



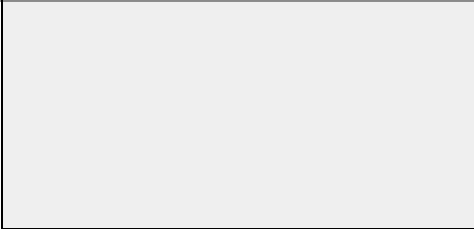
First Name:

Last Name:

Address:

City:

State:



Zip:

Email:

Confirm Email:

Sales tax charged where applicable.

SEND MY TRIAL ISSUE NOW!

News to improve your horse's health

Get FREE horse health e-newsletters each week!

SIGN UP NOW!



- [Site Map](#)
- [Terms of Use](#)
- [Privacy Policy](#)
- [Help](#)
- [About Us](#)
- [Contact Us](#)
- [Freelance Info](#)
- [Upcoming Topics](#)
- [Buy a Copy](#)
- [Advertise](#)

Seek the advice of a qualified veterinarian before proceeding with any diagnosis, treatment, or therapy.

Copyright © 2012 BLOOD-HORSE PUBLICATIONS. All rights reserved. Reproduction in whole or in part in any form or medium without written permission of BLOOD-HORSE PUBLICATIONS is prohibited. THE HORSE, THE HORSE logo, THEHORSE.COM and THEHORSE.COM logo are trademarks of BLOOD-HORSE PUBLICATIONS.

